

Red Bailey  
85022

ASTERIAS 85-10 CRUISE REPORT

Vessel: R/V ASTERIAS

Cruise Number: AST 85-10

Project: Coastal, Estuarine, and Lacustrine Studies (9470-02421)  
funded by USGS - SIR.

Survey Area: Delaware Bay

Dates: 7-20 July 1985

Personnel: Harley Knebel, USGS, Chief Scientist (July 9-12)  
Ron Circe', USGS, Chief Scientist (July 13-18), Data Curator  
Dick Colburn, WHOI, Captain  
Ken Parolski, USGS, Electronics Technician  
Tom Pickett, Delaware Geological Survey  
Dick Benson, Delaware Geological Survey  
Jeff Williams, USGS  
S.R. Khan, Student from Bangladesh  
David Hall, New Jersey Geological Survey

Purpose of Cruise: The purpose of the cruise was to collect high-resolution seismic-reflection profiles and sidescan-sonar records to define the geologic and geophysical characteristics of the bottom and subbottom sediments in lower Delaware Bay. By analyzing these data we hope to determine (1) the shallow subbottom stratigraphy and the Holocene and pre-Holocene depositional history of the bay; (2) the types of bottom morphology; and (3) possible areas of sediment accumulation and erosion.

Navigation: LORAN-C time delays were received by the Northstar receiver aboard ASTERIAS, and these were printed out and taped by a TI Silent 700. When possible, checks on our positions were made by using radar ranging and the locations of navigational buoys.

Equipment: EG&G Uniboom seismic profiling system  
Klein sidescan-sonar system  
Analog tape systems for seismic-reflection and sidescan-sonar data

Tabulated Information: Number of days at sea: 4 days in transit between Woods Hole, MA and Lewes, DE  
10 days surveying

Data collected: 592 line km of Uniboom records  
592 line km of Klein sidescan-sonar data

Cruise Summary: R/V ASTERIAS left Woods Hole, MA for Lewes, DE on July 7 with Dick Colburn and Ken Parolski aboard. Harley Knebel and Ron Circe' drove to Lewes, DE on July 8, meeting ASTERIAS at the University of Delaware Marine Science Facility in the evening. Surveying within Delaware Bay began on July 9 and continued each day through July 18. During the survey, equipment malfunctions were few and of short duration, and only about 1.5 days were lost because of inclement weather. The ship returned each night to Lewes, DE where berthing space and other logistical support was graciously provided by the University of Delaware Marine Science Facility. On the evening of July 12, Harley Knebel got off ASTERIAS, turning the Chief Scientist's duties over to Ron Circe'. Visitors aboard the boat during the survey included: Tom Pickett and Dick Benson, Delaware Geological Survey (July 11); Jeff Williams, USGS, and S.R. Khan, Bangladesh, (July 15); and David Hall, New Jersey Geological Survey (July 16). Wayne Newell and Byron Stone, USGS, visited the boat and USGS personnel on the evening of July 9. On July 19, ASTERIAS departed for Woods Hole with Dick Colburn and Ron Circe' aboard; Ken Parolski returned to Woods Hole by car. The ASTERIAS arrived in Woods Hole on the morning of July 20.

